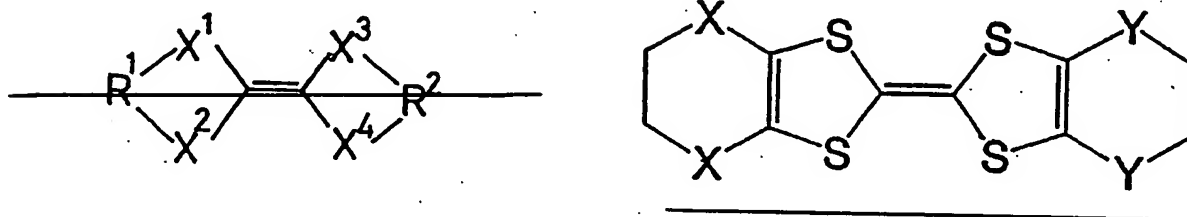


AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently amended) An electrochemical device comprising a positive electrode, a negative electrode and an electrolyte, wherein

at least one of said positive and negative electrodes comprises a compound having a structure represented by the general formula (4) (4):



where X and Y are independent of each other and each represents a sulfur atom, an oxygen atom, a selenium atom, a tellurium atom or a methylene group.

~~where R¹ and R² are independent of each other and each represents a linear or cyclic aliphatic group; X¹, X², X³ and X⁴ are independent of each other and each represents a sulfur atom, an oxygen atom, a selenium atom or a tellurium atom; and said aliphatic group can comprise at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom and a boron atom.~~

2-6. (Cancelled)

7. (Currently amended) The electrochemical device in accordance with claim 1, wherein said compound comprises a polymer compound having a plurality of the structures represented by the general formula ~~(+)~~ (4).

8. (Original) The electrochemical device in accordance with claim 7, wherein said polymer compound has a polyacetylene chain as a main chain.

9. (Original) The electrochemical device in accordance with claim 7, wherein said polymer compound forms a film.

10. (Original) The electrochemical device in accordance with claim 1, wherein said electrolyte comprises a solvent, and an anion and a cation dissolved in said solvent; and said compound is capable of forming a coordinate bond with said cation through an oxidation-reduction reaction.

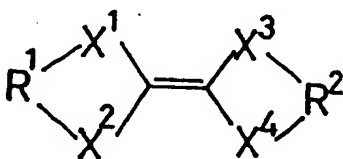
11. (Original) The electrochemical device in accordance with claim 10, wherein said cation is a lithium ion.

12. (Original) The electrochemical device in accordance with claim 1, wherein said electrolyte comprises a solvent, and an anion and a cation dissolved in said solvent; and said compound is capable of forming a coordinate bond with said anion through an oxidation-reduction reaction.

13. (Original) The electrochemical device in accordance with claim 1, wherein said positive electrode includes said compound as a positive electrode active material; and said negative electrode includes a carbonaceous material as a negative electrode active material.

14. (Original) The electrochemical device in accordance with claim 1, wherein said positive electrode includes said compound as a positive electrode active material; and said negative electrode includes, as a negative electrode active material, at least one selected from the group consisting of a lithium metal, a lithium-containing composite nitride and a lithium-containing composite titanium oxide.

15. (Currently amended) An electrode active material for an electrochemical device comprising a compound having a structure represented by the general formula (1):

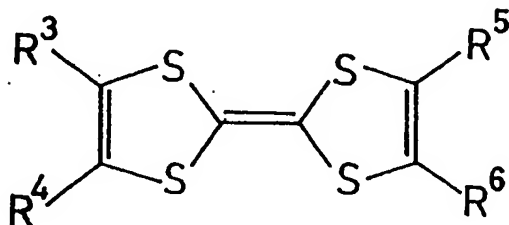


where R¹ and R² are independent of each other and each represents a linear or cyclic aliphatic group; X¹, X², X³ and X⁴ are independent of each other and each represents a sulfur atom, an oxygen atom, a selenium atom or a tellurium atom; and said aliphatic group can comprise at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom and a boron atom,

wherein said compound comprises a polymer compound having a plurality of the structures represented by the general formula (1) and said polymer compound has a polyacetylene chain as a main chain.

16. (Withdrawn) The electrode active material for an electrochemical device in accordance with claim 15, wherein

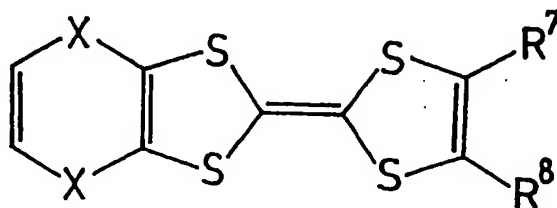
said compound is represented by the general formula (2):



where R^3 , R^4 , R^5 and R^6 are independent of each other and each represents a linear or cyclic aliphatic group, a hydrogen atom, a hydroxyl group, a cyano group, an amino group, a nitro group or a nitroso group; and said aliphatic group can comprise at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom, a boron atom and a halogen atom.

17. (Withdrawn) The electrode active material for an electrochemical device in accordance with claim 15, wherein

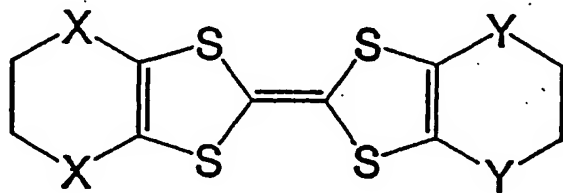
said compound is represented by the general formula (3):



where R^7 and R^8 are independent of each other and each represents a linear or cyclic aliphatic group, a hydrogen atom, a hydroxyl group, a cyano group, an amino group, a nitro group or a nitroso group; X represents a sulfur atom, an oxygen atom, a selenium atom or a tellurium atom; and said aliphatic group can comprise at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom, a boron atom and a halogen atom.

18. (Original) The electrode active material for an electrochemical device in accordance with claim 15, wherein

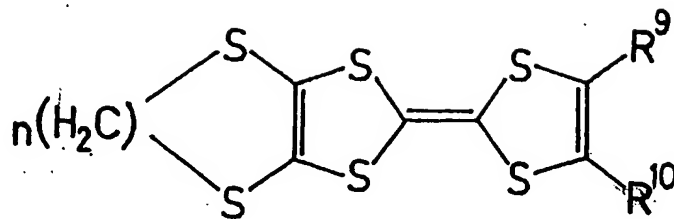
said compound is represented by the general formula (4):



where X and Y are independent of each other and each represents a sulfur atom, an oxygen atom, a selenium atom, a tellurium atom or a methylene group.

19. (Withdrawn) The electrode active material for an electrochemical device in accordance with claim 15, wherein

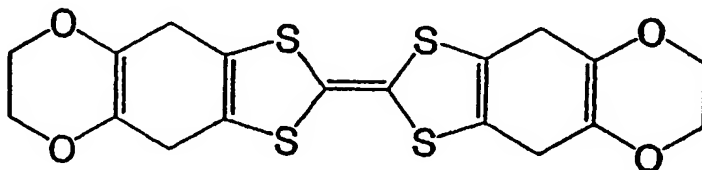
said compound is represented by the general formula (5):



where R^9 and R^{10} are independent of each other and each represents a linear or cyclic aliphatic group, a hydrogen atom, a hydroxyl group, a cyano group, an amino group, a nitro group or a nitroso group; said aliphatic group can comprise at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom, a boron atom and a halogen atom; and n is not less than 1.

20. (Withdrawn) The electrode active material for an electrochemical device in accordance with claim 15, wherein

said compound is represented by the chemical formula (6):



21-22 (Cancelled)

23. (Currently amended) The electrode active material for an electrochemical device in accordance with claim [[21]] 15, wherein said polymer compound forms a film.

24. (Original) The electrochemical device in accordance with claim 1, wherein at least one of said electrodes further comprises a substrate carrying said compound; and said substrate and said compound are bonded by a chemical bond.

25. (Original) The electrochemical device in accordance with claim 24, wherein said chemical bond is at least one selected from the group consisting of a covalent bond and a coordinate bond.

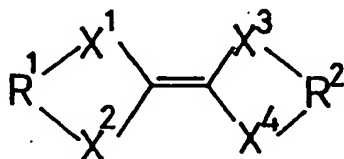
26. (Original) The electrochemical device in accordance with claim 25, wherein said covalent bond is at least one selected from the group consisting of an Si-O bond, a Ti-O bond and an amido bond.

27. (Original) The electrochemical device in accordance with claim 25, wherein said coordinate bond is a metal-sulfur bond.

28. (Original) The electrode active material for an electrochemical device in accordance with claim 15, further comprising a substrate carrying said compound, wherein said substrate and said compound are bonded by a chemical bond.

29. (New) An electrochemical device comprising a positive electrode, a negative electrode and an electrolyte, wherein

at least one of said positive and negative electrodes comprises a compound having a structure represented by the general formula (1):

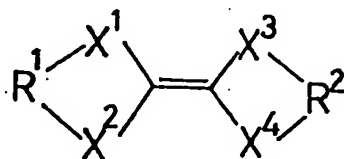


where R^1 and R^2 are independent of each other and each represents a linear or cyclic aliphatic group; X^1 , X^2 , X^3 and X^4 are independent of each other and each represents a sulfur atom, an oxygen atom, a selenium atom or a tellurium atom; and said aliphatic group can comprise at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom and a boron atom,

wherein said compound comprises a polymer compound having a plurality of the structures represented by the general formula (1), and said polymer compound has a polyacetylene chain as a main chain.

30. (New) An electrochemical device comprising a positive electrode, a negative electrode and an electrolyte, wherein

at least one of said positive and negative electrodes comprises a compound having a structure represented by the general formula (1):

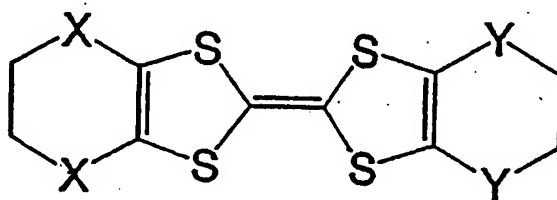


where R^1 and R^2 are independent of each other and each represents a linear or cyclic aliphatic group; X^1 , X^2 , X^3 and X^4 are independent of each other and each represents a sulfur atom, an oxygen atom, a selenium atom or a tellurium atom; and said aliphatic group can

comprise at least one selected from the group consisting of an oxygen atom, a nitrogen atom, a sulfur atom, a silicon atom, a phosphorus atom and a boron atom,

wherein said positive electrode includes said compound as a positive electrode active material; and said negative electrode includes, as a negative electrode active material, at least one selected from the group consisting of a lithium metal, a lithium-containing composite nitride and a lithium-containing composite titanium oxide.

31. (New) An electrode active material for an electrochemical device comprising a compound having a structure represented by the general formula (4):



where X and Y are independent of each other and each represents a sulfur atom, an oxygen atom, a selenium atom, a tellurium atom or a methylene group.